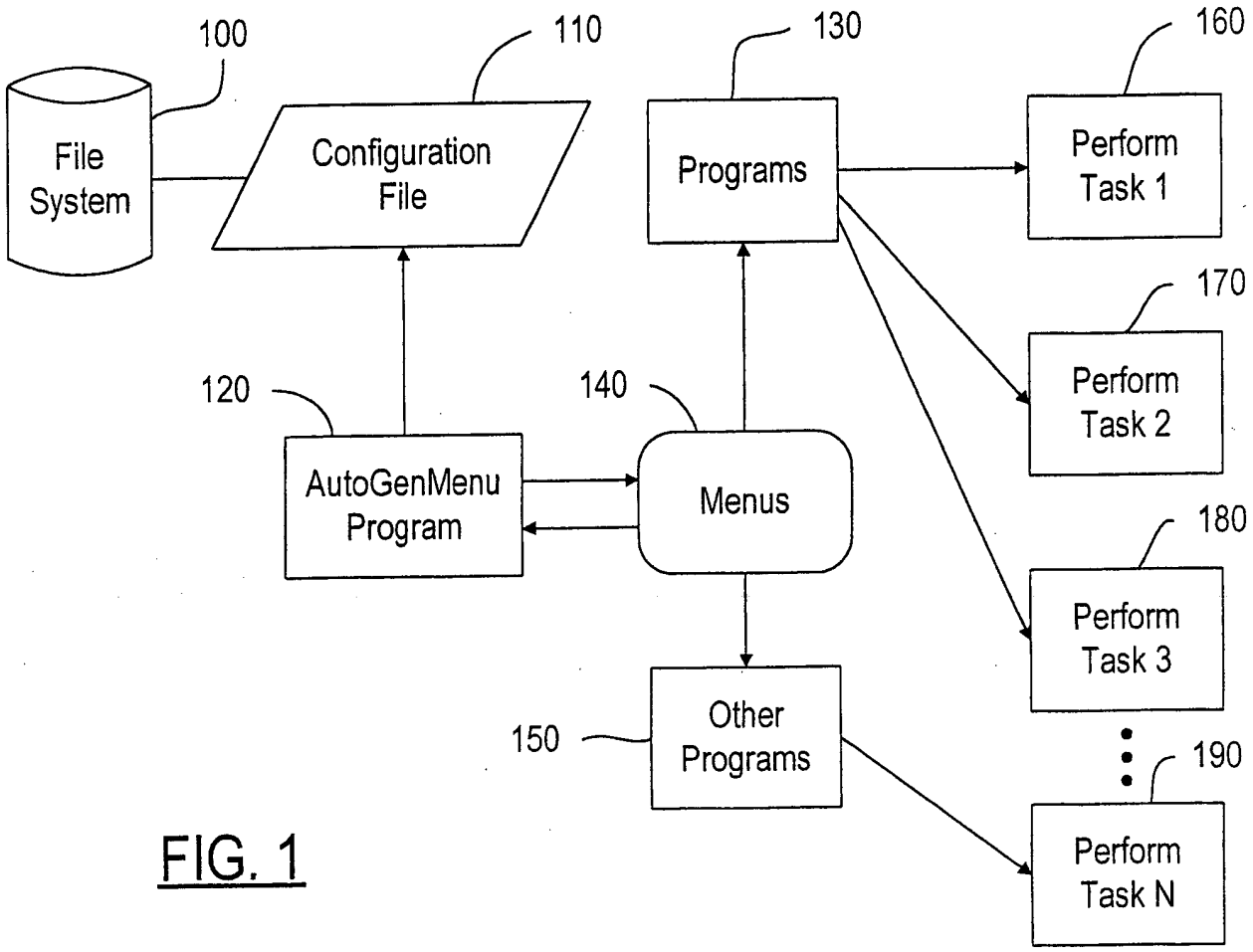

100
110
130
160
File System
Configuration File
Programs
Perform Task 1
170
Perform Task 2
120
140
AutoGenMenu Program
Menus
180
Perform Task 3
150
Other Programs
190
Perform Task N

FIG. 1

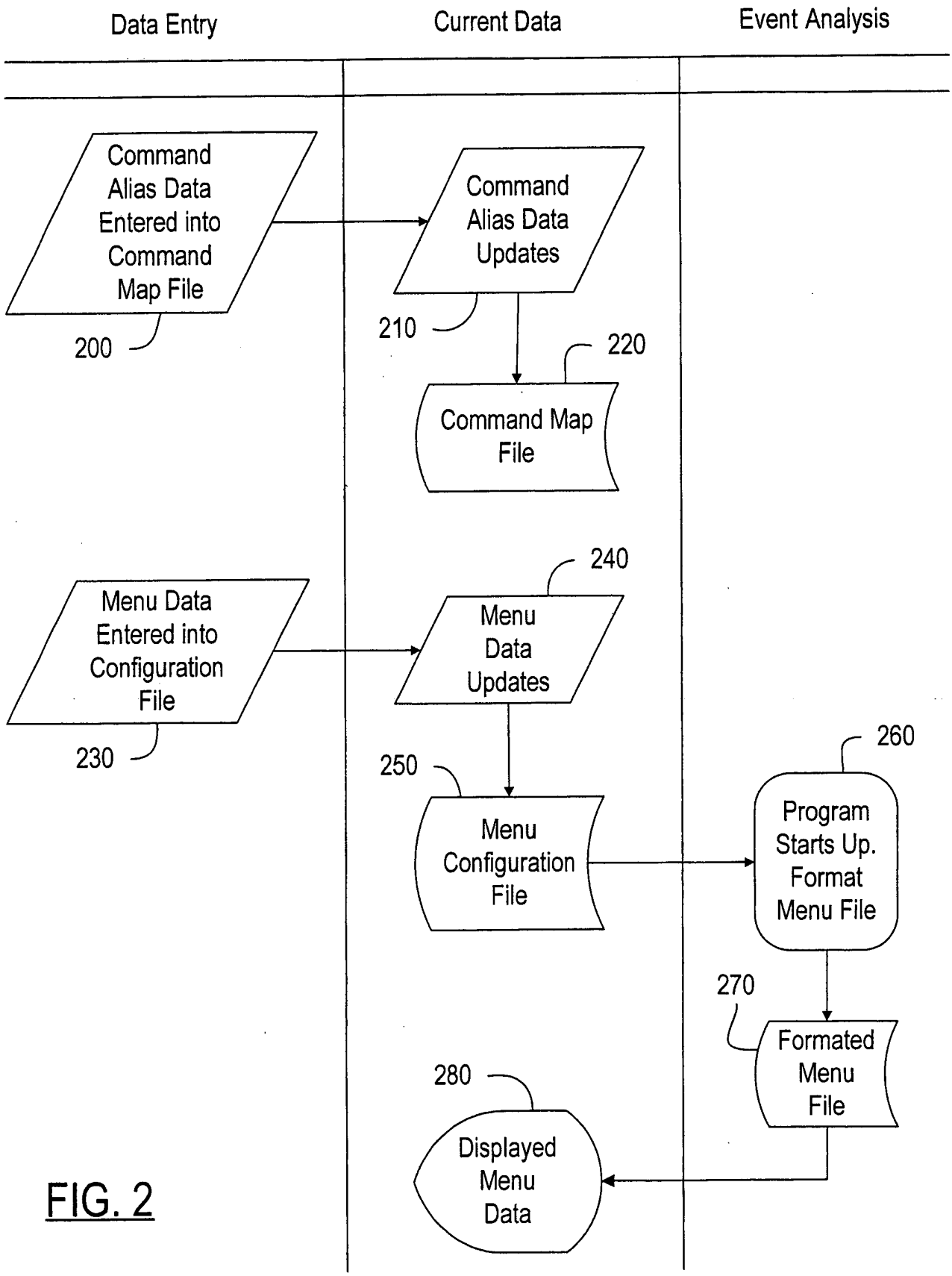

Data Entry
Current Data
Event Analysis
Command Alias Data Entered into Command Map File
200
Command Alias Data Updates
210
220
Command Map File
Menu Data Entered into Configuration File
230
240
Menu Data Updates
250
Menu Configuration File
260
Program Starts Up. Format Menu File
270
Formated Menu File
280
Displayed Menu Data

FIG. 2

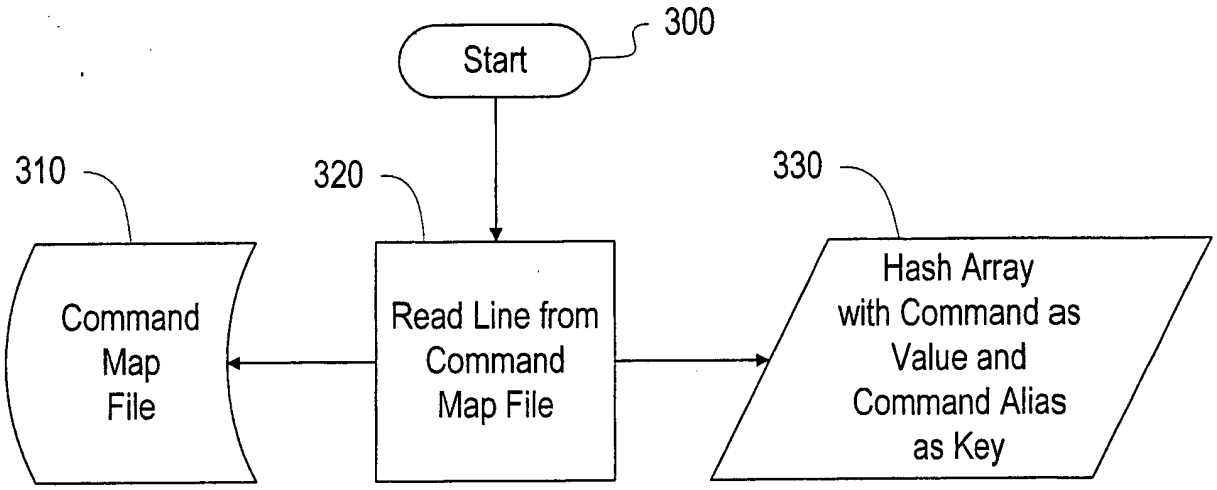



FIG. 3

| Key | CmdArray[key] |
|---|---|
| a | autoGenMenu.exe |
| e | excel.exe |
| p | powerpnt.exe |
| w | winword.exe |

FIG. 4

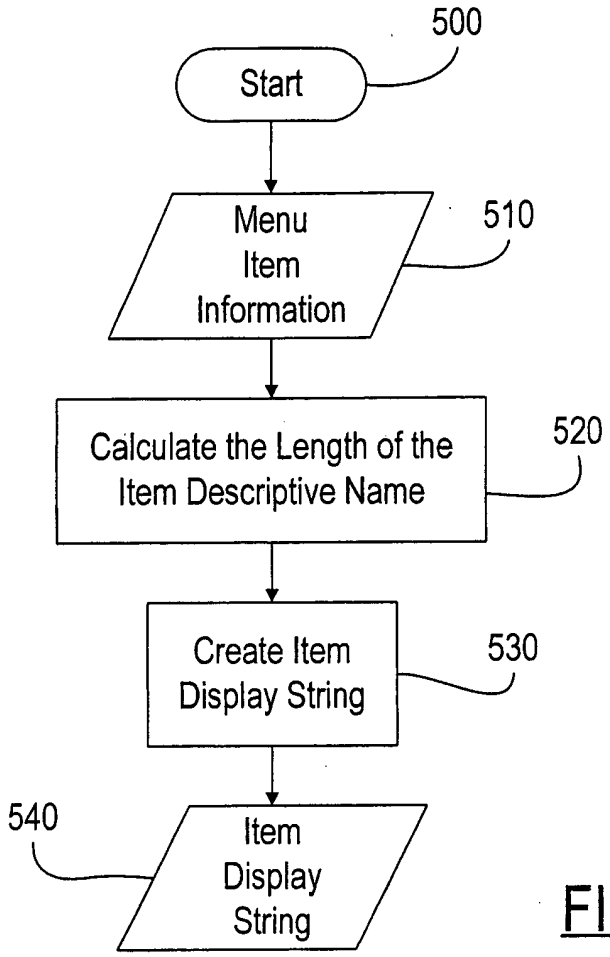



FIG. 5

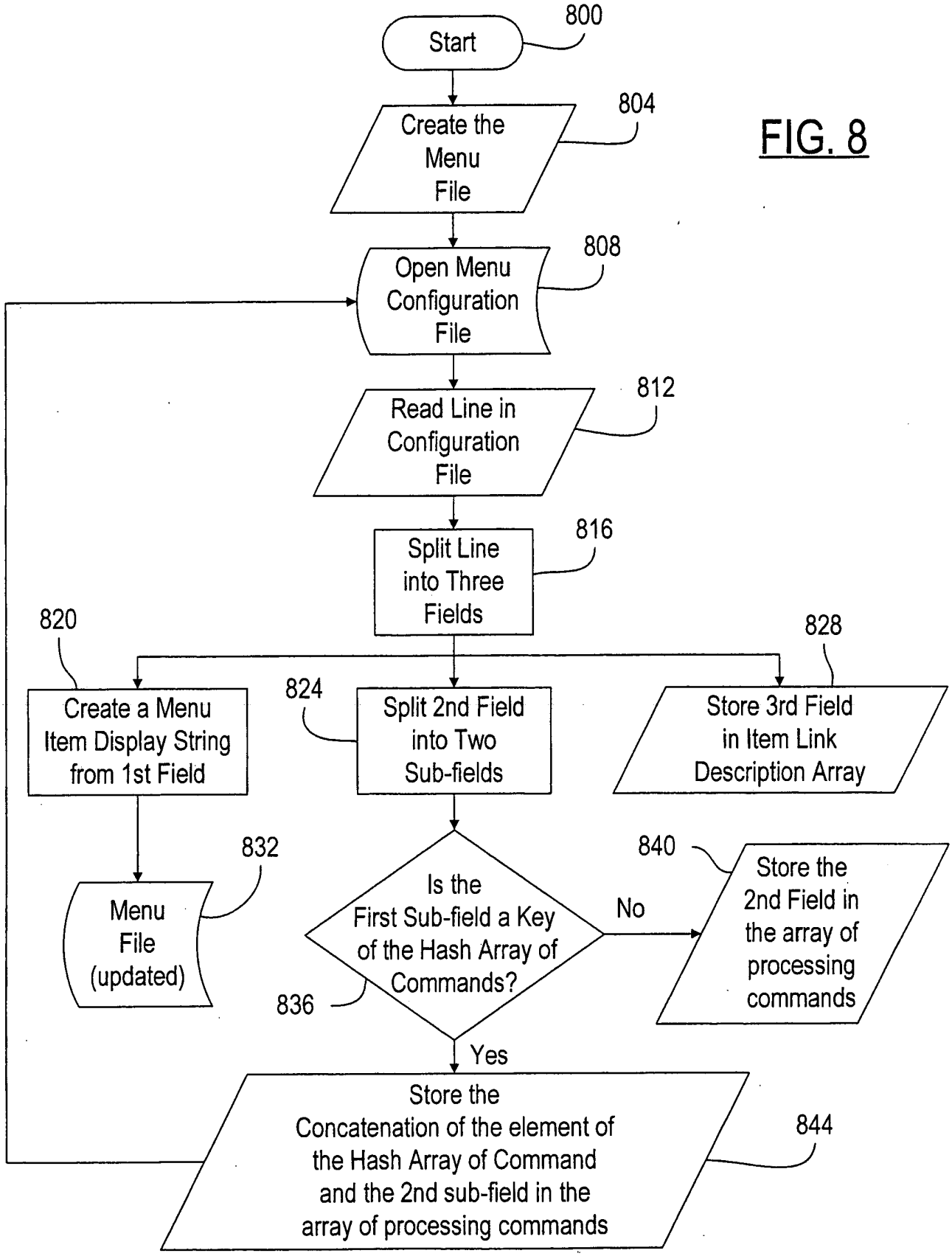
Utility;e utility.xls;Utility
Insurance;e insurance.xls;Insurance
Credit Card;e creditcard.xls;Credit Card
Bank Account;e bank.xls;Bank Account
Phone;e phone.xls;Phone
Taxes;e taxes.xls;Taxes
Trip;a menu1;Trip
Concerts;a concert.txt;Concerts
Presentation;p Presentation1.ppt;Presentation
Others;e others.xls;Others
Summary;e summary.xls;Summary

FIG. 6

| Descriptive Names | Displaying fields (of length 24) inside double quotes |
|---|---|
| Utility | "0) Utility " |
| Insurance | "1) Insurance " |
| Credit Card | "2) Credit Card " |
| Bank Account | "3) Bank Account " |
| Phone | "4) Phone " |
| Taxes | "5) Taxes " |
| Trip | "6) Trip " |
| Concerts | "7) Concerts " |
| Presentation | "8) Presentation " |
| Others | "9) Others " |
| Summary | "10) Summary " |

FIG. 7

FIG. 8


800
Start
804
Create the Menu File
808
Open Menu Configuration File
812
Read Line in Configuration File
816
Split Line into Three Fields
820
828
Create a Menu Item Display String from 1st Field
824
Split 2nd Field into Two Sub-fields
Store 3rd Field in Item Link Description Array
832
Menu File (updated)
Is the First Sub-field a Key of the Hash Array of Commands?
836
No
840
Store the 2nd Field in the array of processing commands
Yes
Store the Concatenation of the element of the Hash Array of Command and the 2nd sub-field in the array of processing commands
844

| Index | Element of Processing Command Array with this index value |
|---|---|
| 1 | excel.exe utility.xls |
| 2 | excel.exe insurance.xls |
| 3 | excel.exe creditcard.xls |
| 4 | excel.exe bank.xls |
| 5 | excel.exe phone.xls |
| 6 | excel.exe taxes.xls |
| 7 | autoGenMenu.exe menu1 |
| 8 | autoGenMenu.exe concert.txt |
| 9 | excel.exe others.xls |
| 10 | excel.exe summary.xls |

FIG. 9

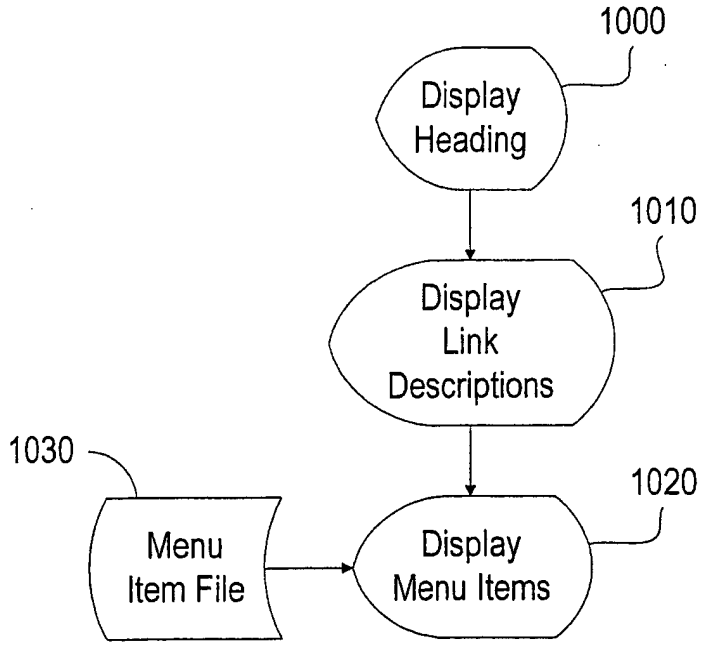



FIG. 10

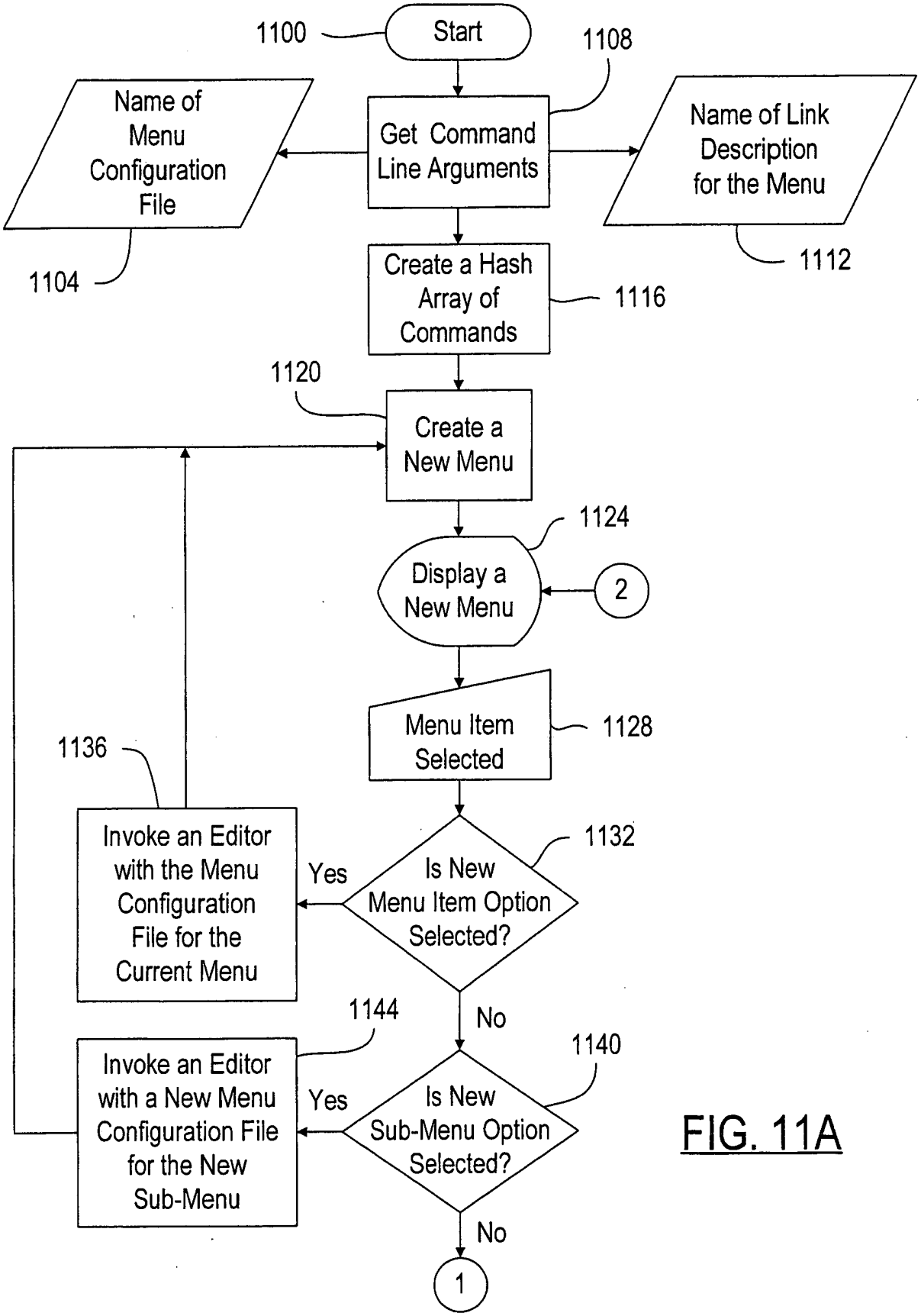

1100
Start
1108
Name of Menu Configuration File
Get Command Line Arguments
Name of Link Description for the Menu
1104
1112
Create a Hash Array of Commands
1116
1120
Create a New Menu
1124
Display a New Menu
2
Menu Item Selected
1128
1136
Invoke an Editor with the Menu Configuration File for the Current Menu
Yes
Is New Menu Item Option Selected?
1132
No
1144
Invoke an Editor with a New Menu Configuration File for the New Sub-Menu
Yes
Is New Sub-Menu Option Selected?
1140
No
1

FIG. 11A

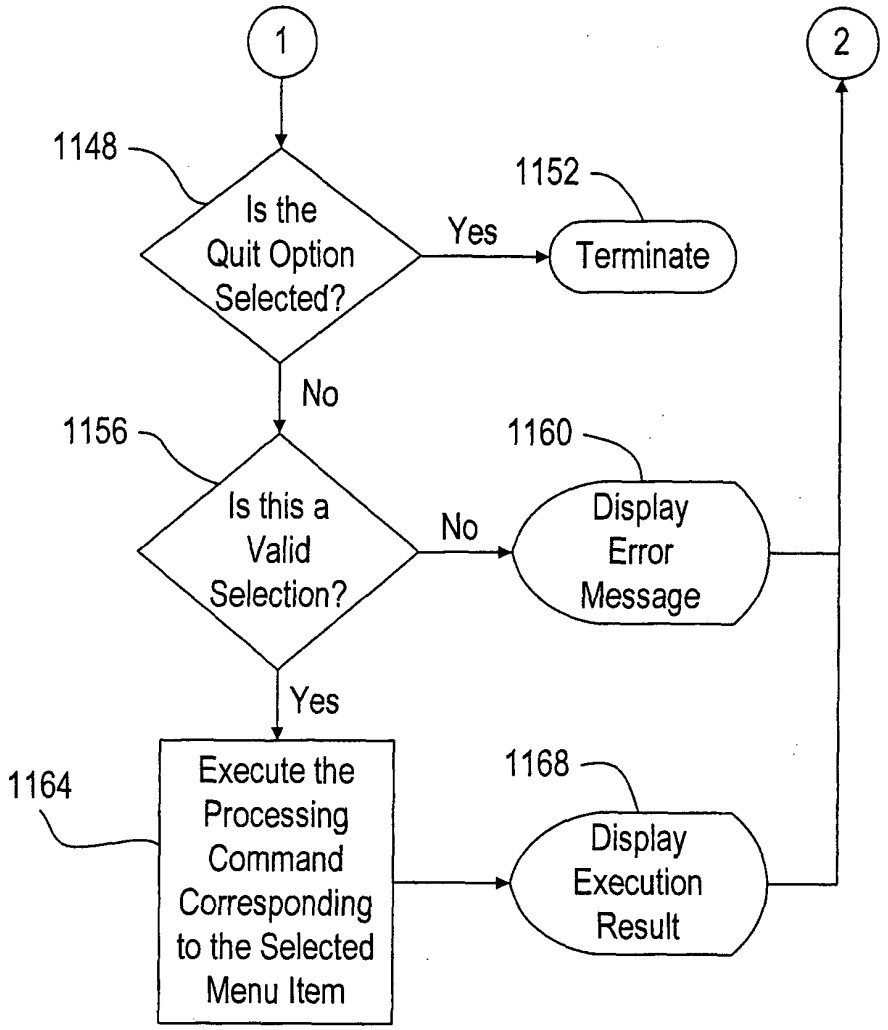

1
2
1148
Is the Quit Option Selected?
Yes
1152
Terminate
No
1156
Is this a Valid Selection?
No
1160
Display Error Message
Yes
1164
Execute the Processing Command Corresponding to the Selected Menu Item
1168
Display Execution Result

FIG. 11B

Automatically Generated Menu

Links: main

| | | |
|---|---|---|
| 0) Utility | 1) Insurance | 2) Credit Card |
| 3) Bank Account | 4) Phone | 5) Taxes |
| 6) Trip | 7) Concerts | 8) Presentation |
| 9) Others | 10) Summary | |
| nmi) new menu item | nms) new submenu | q) quit |

Choice:

FIG. 12

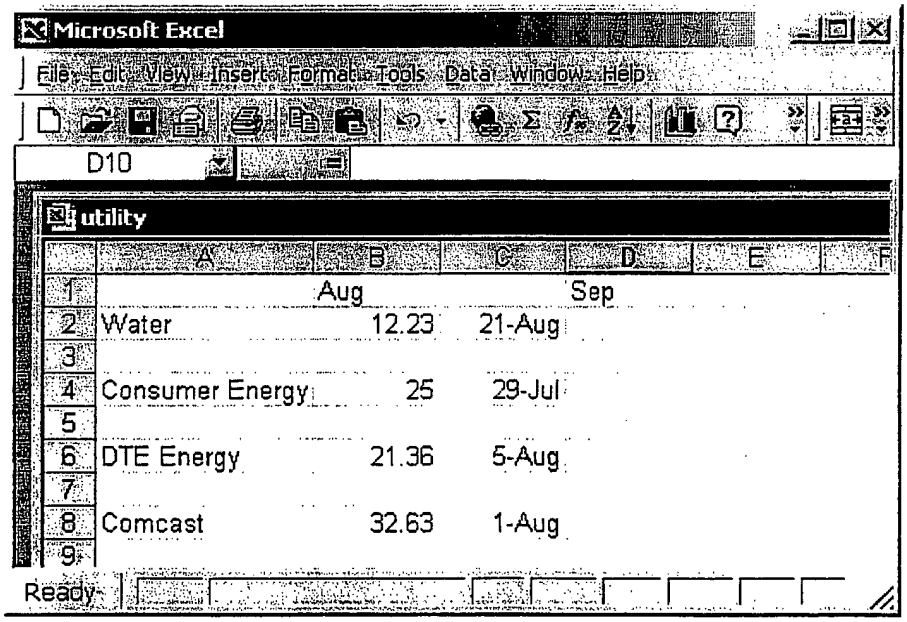



FIG. 13

Automatically Generated Menu

FIG. 14A

Links: main

0) Trip 1
1) Trip 2
2) Credit Card
nmi) new menu item
nms) new submenu
q) quit

Choice:

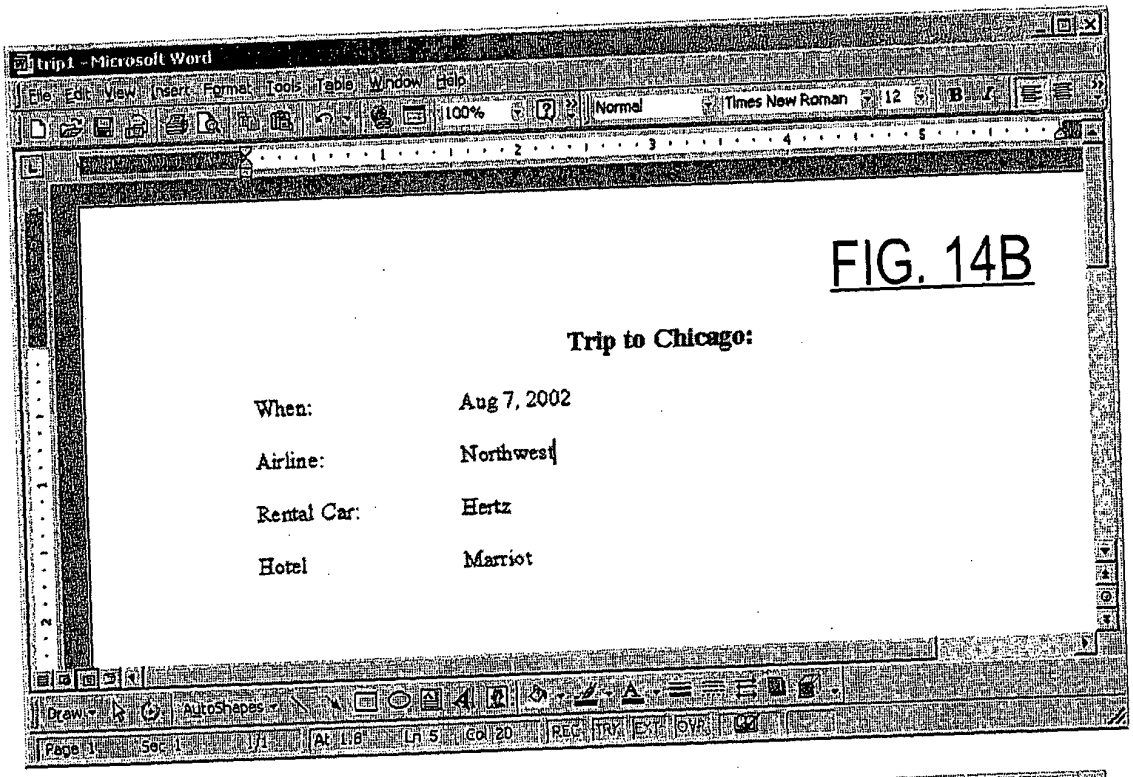



FIG. 14B

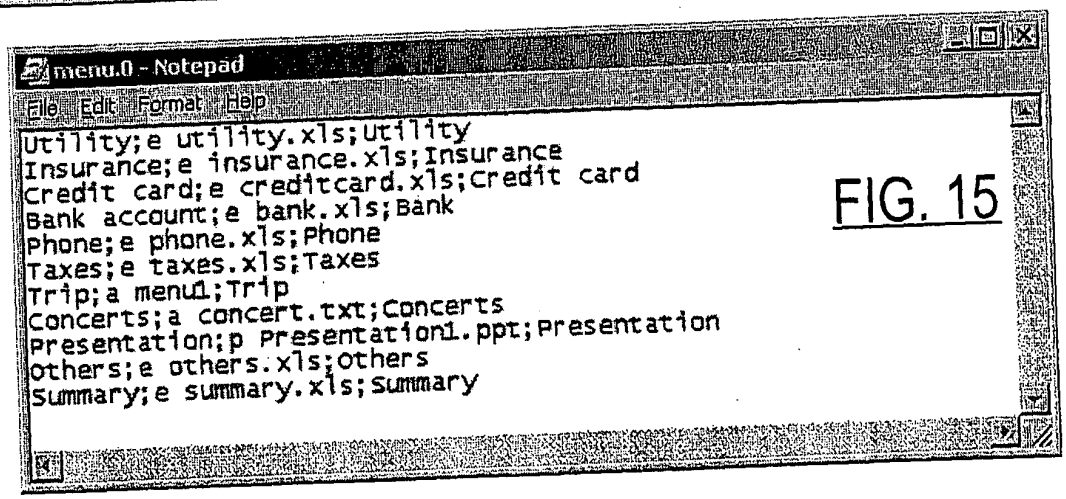



FIG. 15

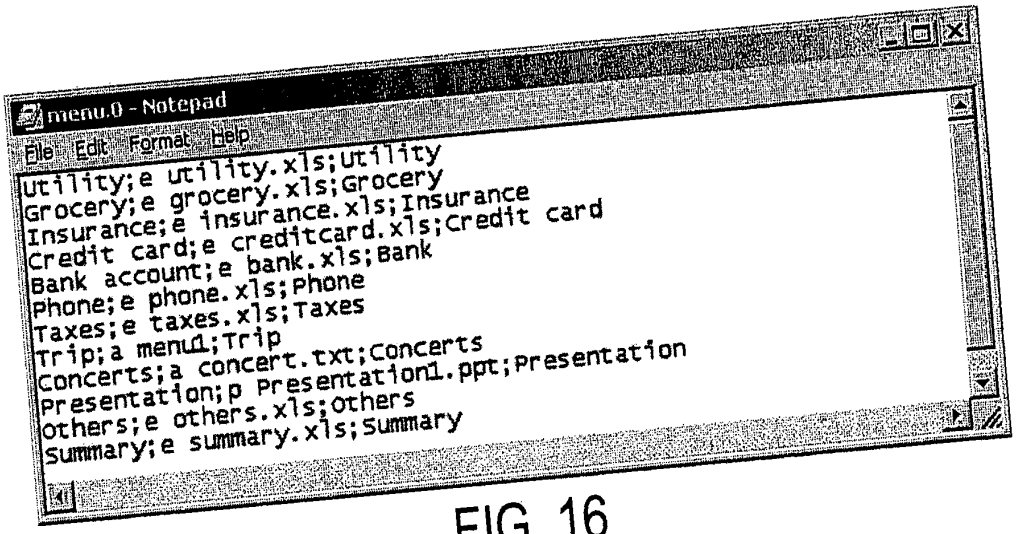



FIG. 16

Automatically Generated Menu

Links: main

| | | |
|---|---|---|
| 0) Utility | 1) Grocery | 2) Insurance |
| 3) Credit Card | 4) Bank Account | 5) Phone |
| 6) Taxes | 7) Trip | 8) Concerts |
| 9) Presentation | 10) Others | 11) Summary |
| nmi) new menu item | nsm) new submenu | q) quit |

Choice:

FIG. 17

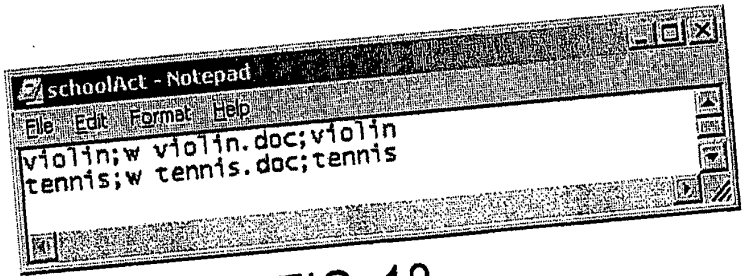



FIG. 18

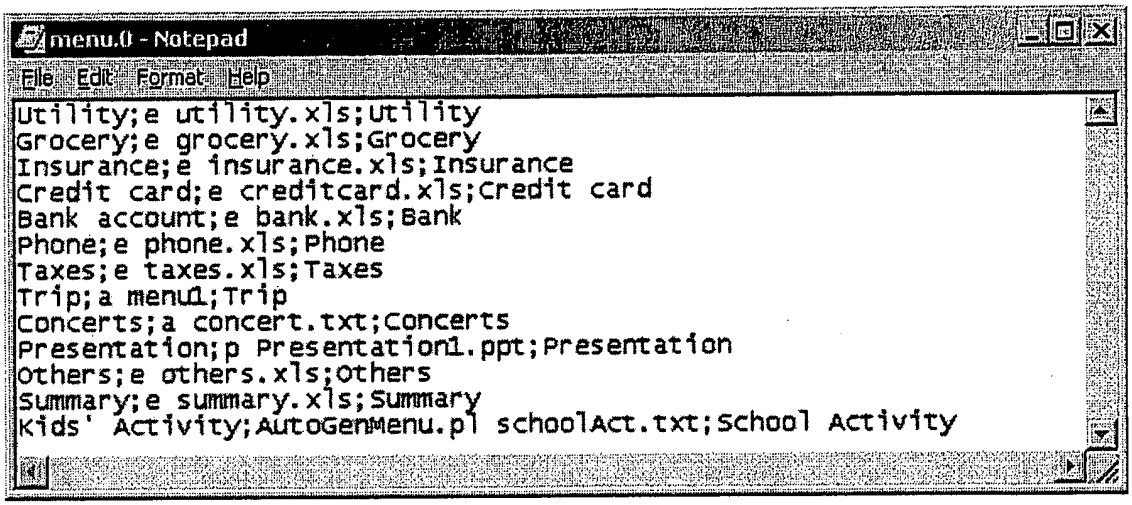



FIG. 19

Automatically Generated Menu

Links: main

| | | |
|---|---|---|
| 0) Utility | 1) Grocery | 2) Insurance |
| 3) Credit Card | 4) Bank Account | 5) Phone |
| 6) Taxes | 7) Trip | 8) Concerts |
| 9) Presentation | 10) Others | 11) Summary |
| 12) Kids' Activity | | |
| nmi) new menu item | nms) new submenu | q) quit |

Choice:

FIG. 20

FIG. 21

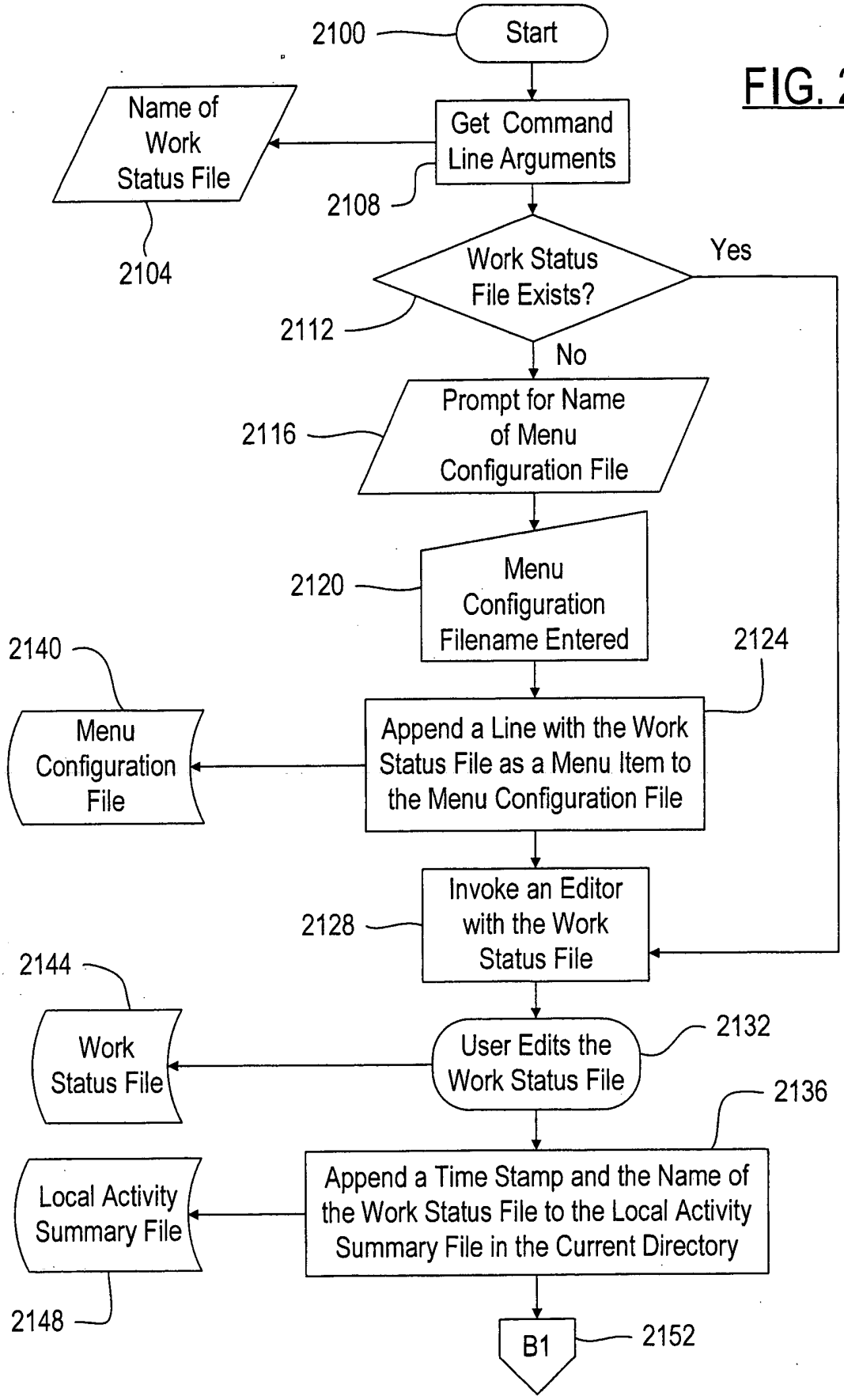
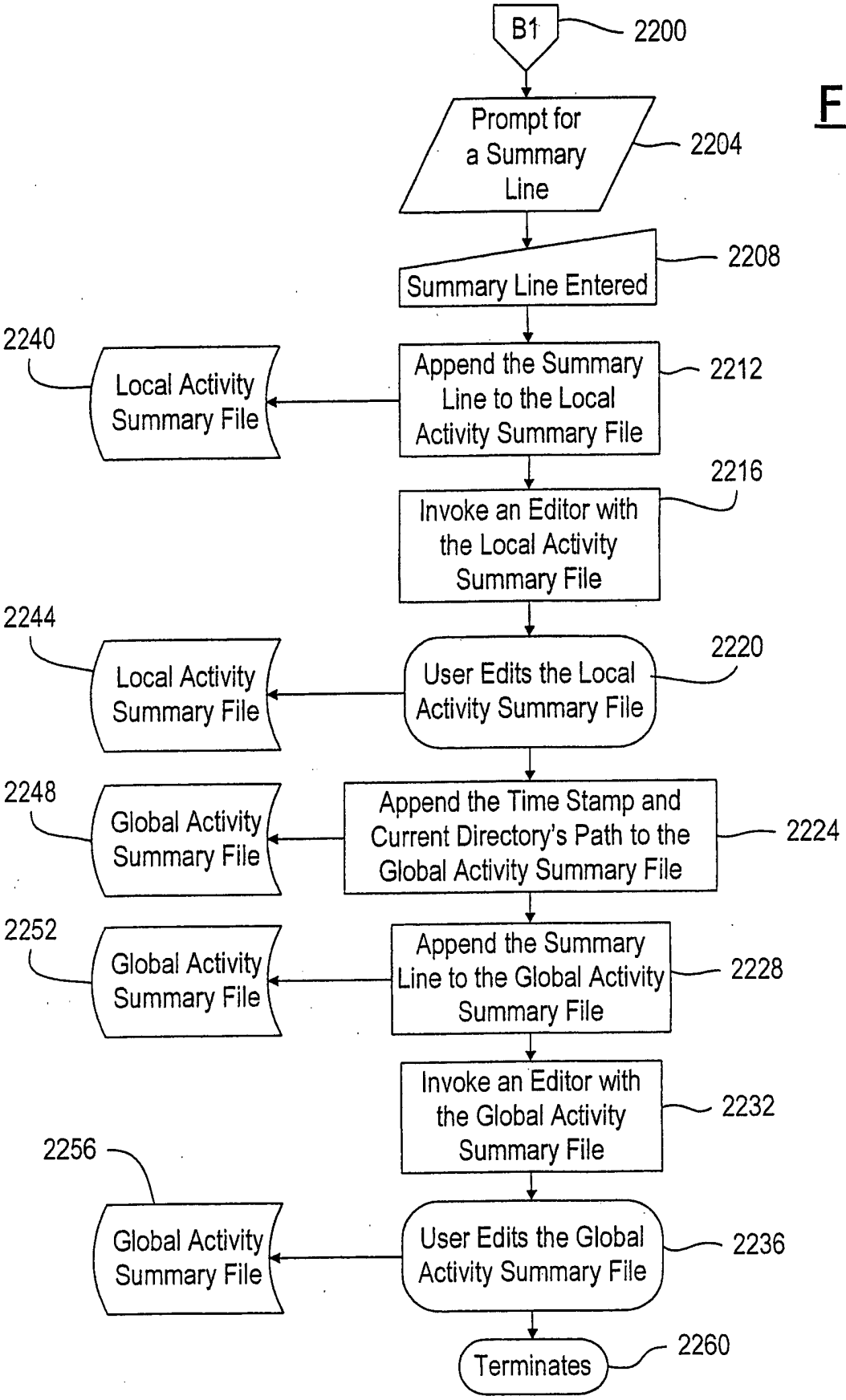

2100
Start
Get Command Line Arguments
2108
Name of Work Status File
2104
Work Status File Exists?
2112
Yes
No
Prompt for Name of Menu Configuration File
2116
Menu Configuration Filename Entered
2120
2124
2140
Menu Configuration File
Append a Line with the Work Status File as a Menu Item to the Menu Configuration File
Invoke an Editor with the Work Status File
2128
2144
Work Status File
User Edits the Work Status File
2132
2136
Local Activity Summary File
Append a Time Stamp and the Name of the Work Status File to the Local Activity Summary File in the Current Directory
2148
B1
2152

FIG. 22


B1
2200
Prompt for a Summary Line
2204
Summary Line Entered
2208
2240
Local Activity Summary File
Append the Summary Line to the Local Activity Summary File
2212
2216
Invoke an Editor with the Local Activity Summary File
2244
Local Activity Summary File
User Edits the Local Activity Summary File
2220
2248
Global Activity Summary File
Append the Time Stamp and Current Directory's Path to the Global Activity Summary File
2224
2252
Global Activity Summary File
Append the Summary Line to the Global Activity Summary File
2228
Invoke an Editor with the Global Activity Summary File
2232
2256
Global Activity Summary File
User Edits the Global Activity Summary File
2236
Terminates
2260

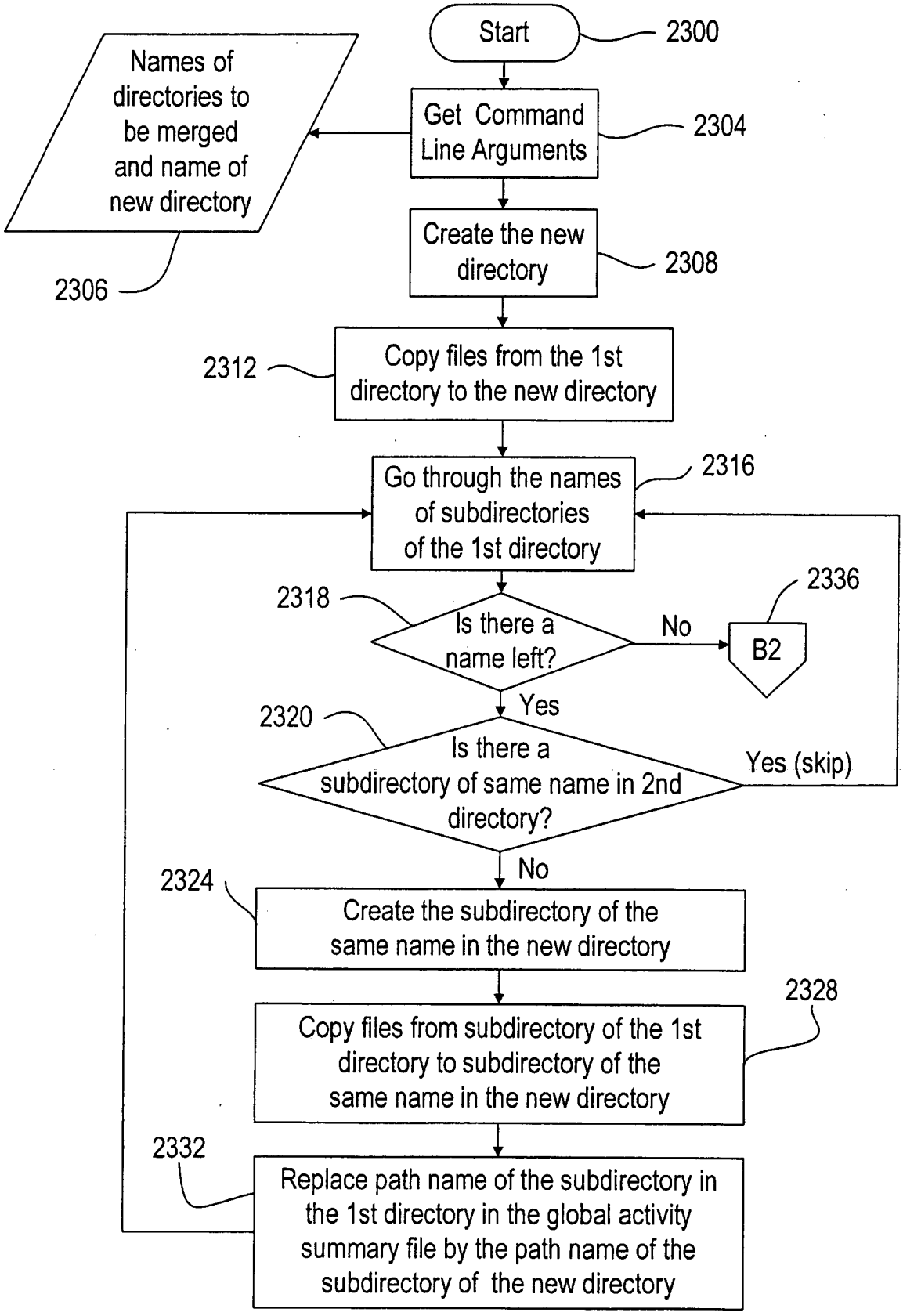

Start
2300
Names of directories to be merged and name of new directory
Get Command Line Arguments
2304
2306
Create the new directory
2308
2312
Copy files from the 1st directory to the new directory
Go through the names of subdirectories of the 1st directory
2316
2318
Is there a name left?
No
2336
B2
Yes
2320
Is there a subdirectory of same name in 2nd directory?
Yes (skip)
No
2324
Create the subdirectory of the same name in the new directory
2328
Copy files from subdirectory of the 1st directory to subdirectory of the same name in the new directory
2332
Replace path name of the subdirectory in the 1st directory in the global activity summary file by the path name of the subdirectory of the new directory

FIG. 23

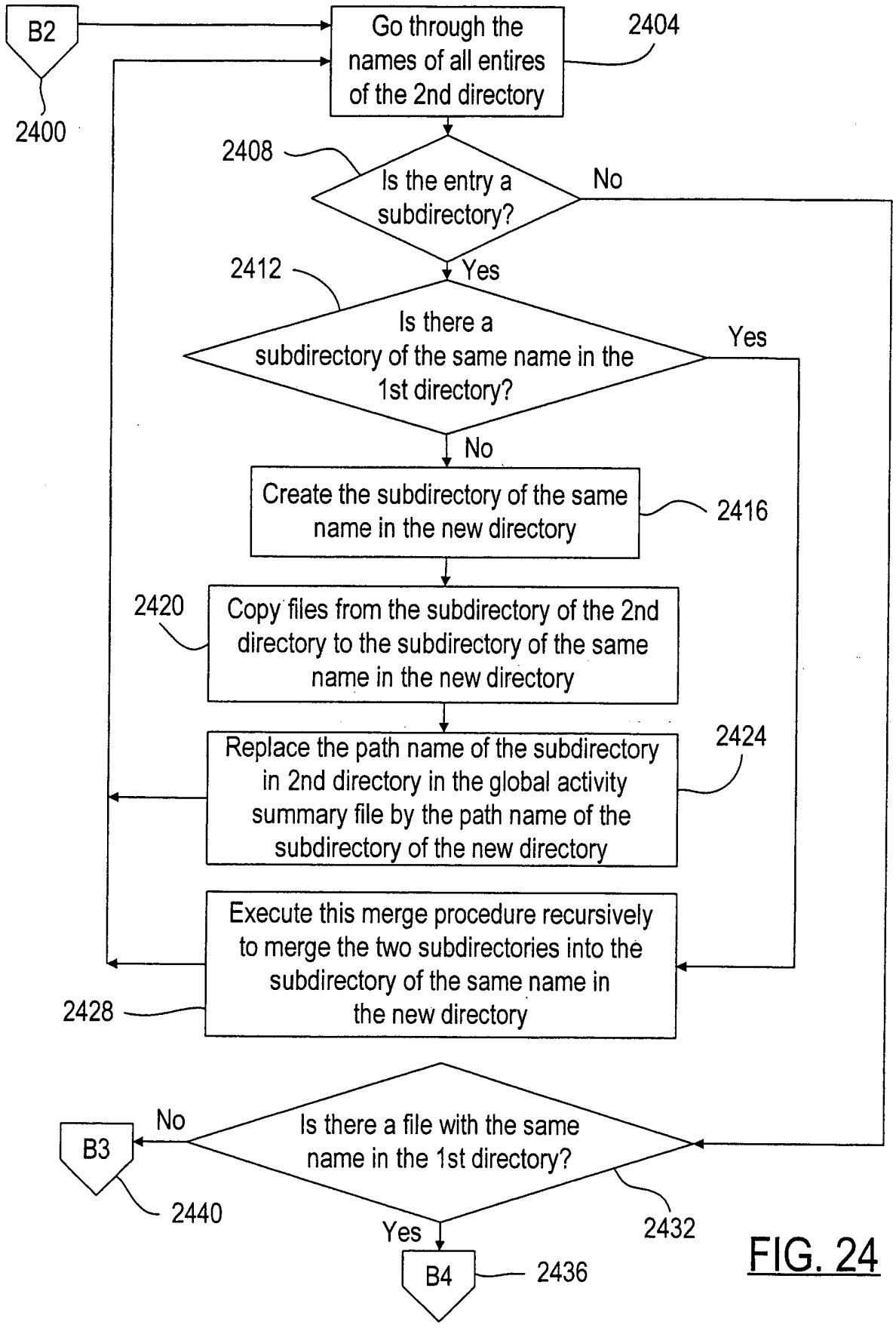

B2
2400
Go through the names of all entires of the 2nd directory
2404
2408
Is the entry a subdirectory?
No
Yes
2412
Is there a subdirectory of the same name in the 1st directory?
Yes
No
Create the subdirectory of the same name in the new directory
2416
2420
Copy files from the subdirectory of the 2nd directory to the subdirectory of the same name in the new directory
Replace the path name of the subdirectory in 2nd directory in the global activity summary file by the path name of the subdirectory of the new directory
2424
Execute this merge procedure recursively to merge the two subdirectories into the subdirectory of the same name in the new directory
2428
Is there a file with the same name in the 1st directory?
No
B3
2440
2432
Yes
B4
2436

FIG. 24

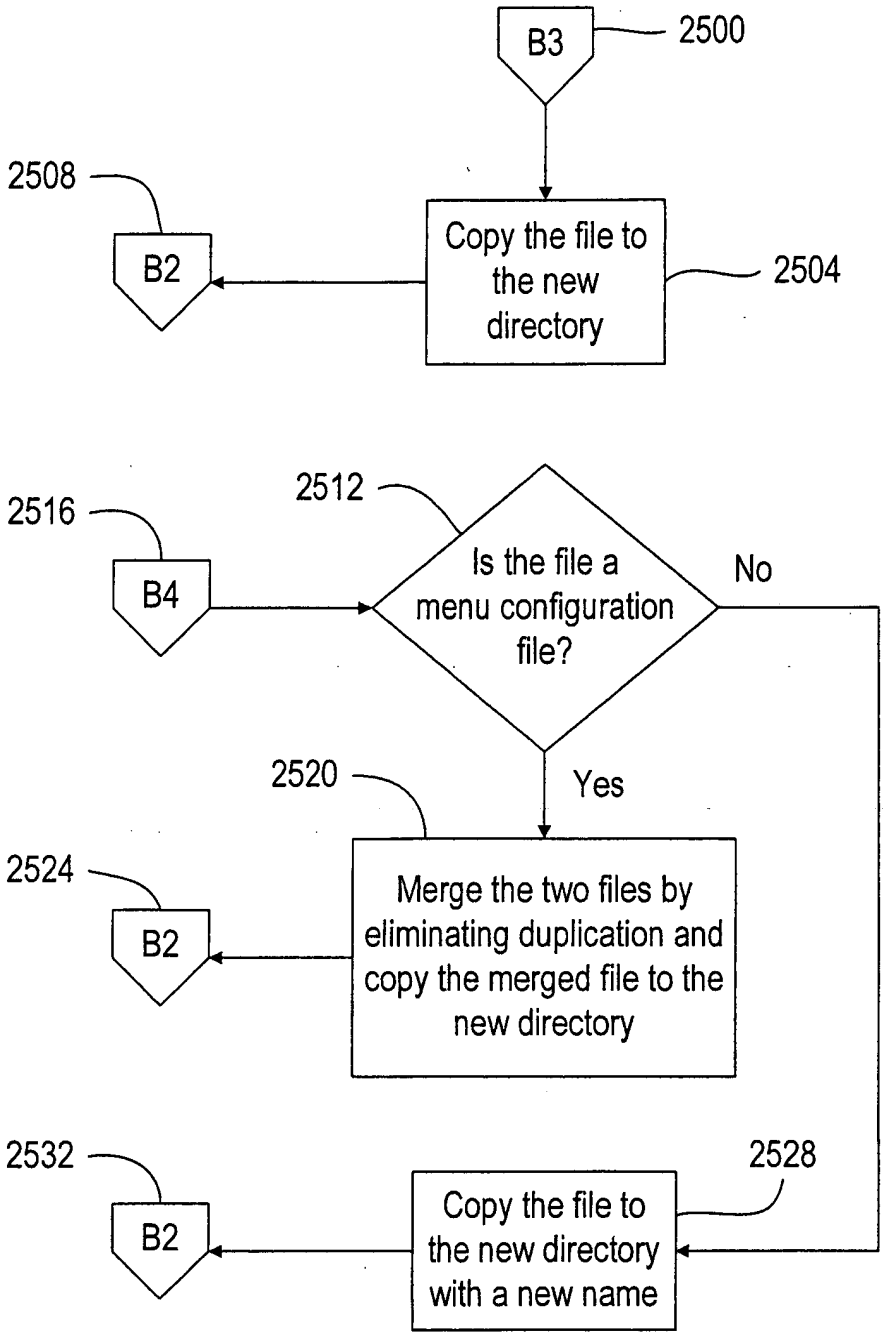

B3
2500
2508
B2
Copy the file to the new directory
2504
2512
2516
B4
Is the file a menu configuration file?
No
Yes
2520
2524
B2
Merge the two files by eliminating duplication and copy the merged file to the new directory
2532
B2
2528
Copy the file to the new directory with a new name

FIG. 25

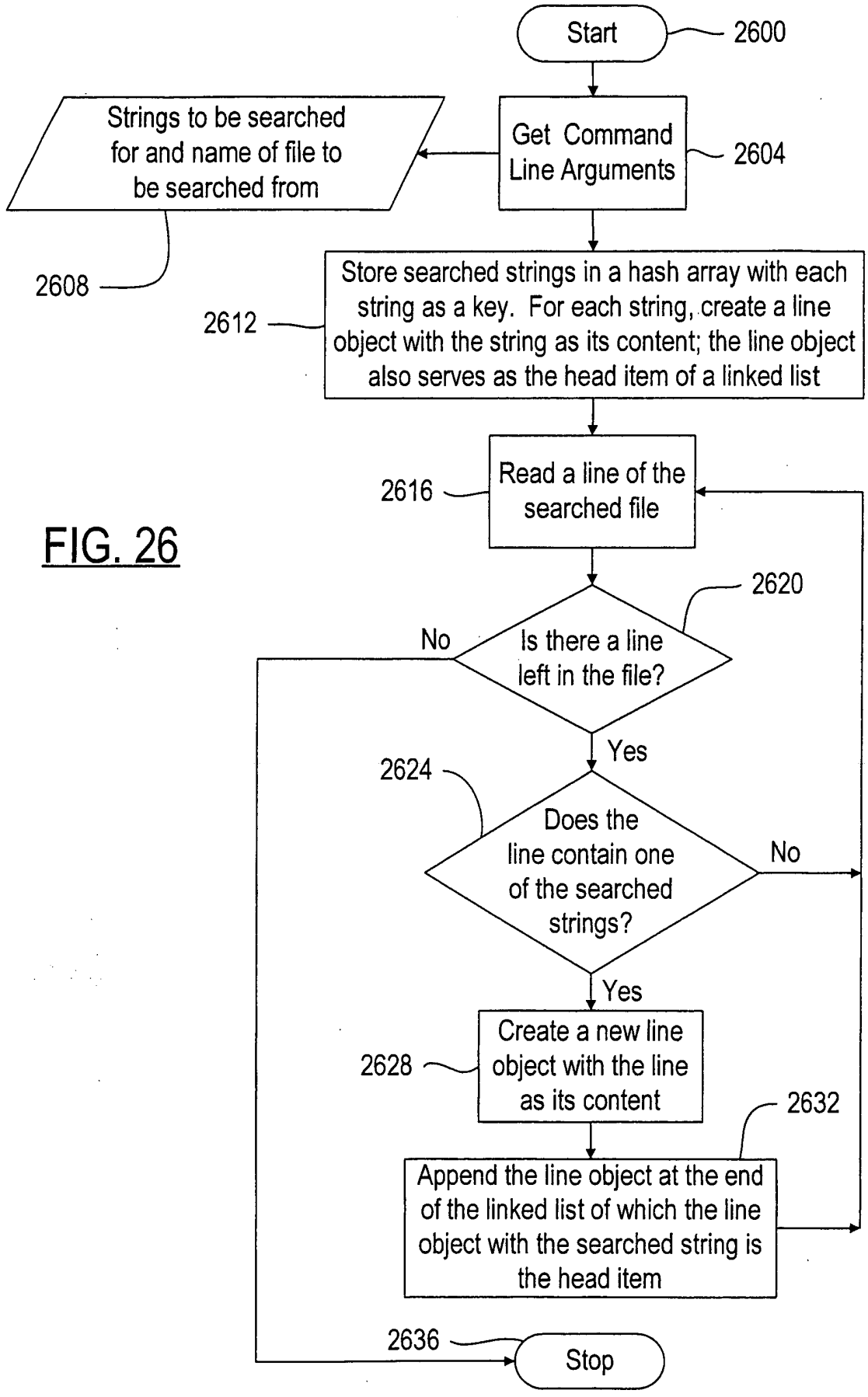

Start
2600
Get Command Line Arguments
2604
Strings to be searched for and name of file to be searched from
2608
Store searched strings in a hash array with each string as a key. For each string, create a line object with the string as its content; the line object also serves as the head item of a linked list
2612
Read a line of the searched file
2616
Is there a line left in the file?
2620
No
Yes
Does the line contain one of the searched strings?
2624
No
Yes
Create a new line object with the line as its content
2628
Append the line object at the end of the linked list of which the line object with the searched string is the head item
2632
Stop
2636

FIG. 26